

- 1)
  - a)
    - I) P:
      - 1) Ability to construct simple AI to solve problems
    - II) E:
      - 1) Partially observable
        - 1) Lectures are one at a time and material must be remembered for examinations
      - 2) Multi agent
        - 1) Competition to set the best grade for the class
        - 2) AI projects are directly competitive
        - 3) Possible cooperation in group projects
      - 3) Stochastic
      - 4) Sequential
      - 5) Dynamic
      - 6) Continuous
      - 7) Unknown
    - III) A:
      - 1) Speech
      - 2) Writing
      - 3) Computer code
    - IV) S:
      - 1) Visual
      - 2) Audio
  - b)  $4! = 24$
  - c) Explores
  - d) False, it uses a stack
  - e) Human acting
  - f)  $O(\text{largest depth})$
  - g) Paths between nodes have equal cost
  - h) True
  - i)

	IDS	BFS
Completeness	Complete	Complete
Time Complexity	$O(b^d)$	$O(b^d)$
Memory Complexity	$O(bd)$	$O(b^d)$
Optimality	If paths are equal cost	If paths are equal cost

- j)
  - I) Fully
  - II) Multi
  - III) Deterministic
  - IV) Static